HRP

ASSOCIATES, INC.

May 11, 1990

RDMS DocID 00100902

NAME: MACDERMID INC
ID: CTD001645999
FILE: R-13
OTH: RDMS#100902

Mr. Ross Bunnell
Waste Management Bureau
Department of Environmental Protection
18-20 Trinity Street
Hartford, Connecticut 06106

RE: REVISED PART B PERMIT APPLICATION, MACDERMID, INC., 526 HUNTINGDON AVENUE, WATERBURY, CONNECTICUT (HRP #MAC-0001.RC)

Dear Mr. Bunnell:

On behalf of MacDermid, Incorporated, HRP Associates, Inc. has prepared and attached, for your review, a revised copy of 526 Huntingdon Avenue Part B Permit Application. This application has been revised to incorporate the comments received under the "Request for Additional Information" dated April 25, 1990.

In an attempt to facilitate the review process, provided under Attachment 1 is HRP's response to each comment listed under the Request for Additional Information. In addition, all pages/figures which have been revised or added since our March 12, 1990, submission have been re-numbered as follows for easy reference:

Revised or added documentation: 4-32 (R-5/10/90) (for example)

Provided as Attachment 2 to this letter is Mr. Marc B. Meunier's May 8, 1990, letter regarding the flammable material storage area and its compliance with NFPA 30. Finally, in accordance with 40 CFR 270.12, the words **"CONFIDENTIAL BUSINESS INFORMATION"** have been typed at the top of pages 4-35 through 4-50 (Section 4.3 of the Part B). MacDermid, Inc. hereby requests that EPA and DEP keep this information confidential.

167 New Britain Ave. ■ Plainville, CT 06062 ■ (203) 793-6899 ■ FAX (203) 793-6871

If you have any questions, please do not hesitate to contact me at (203) 793-6899.

Sincerely yours,

HRP ASSOCIATES, INC.

Richard D. McFee
Senior Project Manager

RDM/cpk
Attachments
cc: Frank Cruice, MacDermid, Inc.
John Podgurski, EPA Region I
E\MCFEE\MAC-1-RC.LTR

ATTACHMENT 1

RESPONSE TO CT-DEP'S
REQUEST FOR ADDITIONAL INFORMATION
COMMENTS DATED APRIL 25, 1990

ATTACHMENT 1

Responses to CT-DEP's
Request for Additional Information
Comments Dated April 25, 1990

MacDermid, Incorporated
526 Huntingdon Avenue
Waterbury, Connecticut

I. PART A APPLICATION

Comment 1

The Part A application must be adjusted to reflect the changes in capacity that were made in the 3/12/90 revised Part B. In particular, the part B now lists a container storage capacity of 82,170 gallons, while the Part A still lists the old figure of 84,590 gallons. The Part A must be corrected and resubmitted with original signatures.

Response 1

Part A application (see Appendix C) has been revised to include a container storage capacity of 82,170 and a new signature page.

II. FACILITY DESCRIPTION

Comment 1

The following problems were noted with your Connecticut Regulated Waste Permit application forms one and three (located in Appendix E of the Part B application):

Comment 1a

The lists of recycled waste on pages 4-2 and 4-33 of the Part B do not match those given in item VI.B. of form one. Forms one and three must accurately reflect the activities which are intended to take place in the recycling operations.

Response 1a

Forms one and three located in Appendix E of the Part B application has been revised to reflect the activities which take place in the recycling operations.

Comment 1b

The process design capacity amounts listed in section IV.B. of form three are not complete. These figures should accurately show all the storage, treatment, and recovery capacities used in the recycling operation. Only storage capacities were given. Consult with the instruction sheet attached to form three for guidance in deriving these figures.

Response 1b

Form three has been revised to include the process design capacity amounts for storage, treatment, and recovery activities (see Appendix E).

Comment 1c

The Facility process flow diagram required in section VIII. of form three must be submitted.

Response 1c

Process flow diagrams are included under Appendix E of the Part B Permit application.

Comment 2

The description of the recycling operation in section 4 of the Part B is inadequate. It should be rewritten so as to be more clear in describing the processes and process flows of this operation. This section should be revised and clarified as follows:

Comment 2a

The volumes of all tanks should be clearly indicated in figures 4.8 - 4.16.

Response 2a

Volumes of all tanks are shown on figures 4.8 - 4.18 which detail the recycling operations performed at 526 Huntingdon Avenue.

Comment 2b

The recycling process description in section 4 of the Part B should specifically refer to figures 4.8 - 4.16, so as to make identification of the units in these areas absolutely clear.

Response 2b

Sections 4.3.1 - 4.3.3 have been revised to include references to figures 4.8 - 4.18.

Comment 2c

Explain what the "mother liquor from the original process tank" referred to on page 4-44 is.

Response 2c

Mother liquor (see page 4-42 (R-5/10/90)) is primarily sodium chloride which remains in the reactor tanks following treatment and is treated within the on-site wasteater treatment system.

Comment 2d

Figures 4.8 - 4.16 should be revised to indicate process flow directions and destinations; in addition, a separate process flow diagram should be submitted as an addition to this section. The methods of transfer (i.e., by pumps, hard piping/hoses, etc.) should be clearly shown on the process flow diagrams. Also, the drawings should be approximately to scale.

Response 2d

Flow schematics of the recycling operations are provided as figures 4.12, 4.16 and 4.18 under the revised Part B Permit application. Process flow directions and destinations have also been added to all remaining figures (4.8 - 4.18). Finally, by August 1, 1990, all piping/hoses used to transfer recyclable waste will be replaced with PVC piping (see Page 4-35).

Comment 2e

In general, the whole section should be made clear and unambiguous to anyone unfamiliar with the layout or operation of your facility.

Response 2e

See revised sections 4.3.1 through 4.3.3.

Comment 3

Section 4 of the part B should include a layout of the bulk storage area truck dock, including its relation to the bulk storage tanks.

Response 3

See Figure 4.7A under the revised part B Permit application.

Comment 4

Your response to comment II.1.i. of the 1/25/90 NOD indicates that the recycling registration was included with Appendix E. Appendix E of the revised Part B does not contain this document. It must be submitted.

Response 4

See Appendix E of the revised Part B Permit application.

Comment 5

Your response to comment II.4. of the 1/25/90 NOD concerning water and sewer connections was inadequate. Blueprints of the locations of these utilities should be available from the City of Waterbury. They should be included or reproduced in the Part B.

Response 5

The locations of the utilities (water, sewer, storm water) shown on Figure 12.8 were obtained from the following maps:

- Water Distribution System, Map 7
  Ronald Haestad, Inc.
  Consulting Engineers
  Waterbury, Connecticut
  1986

- Stormwater Collection System, Map 7
  Ronald Haestad, Inc.
  Consulting Engineers
  Waterbury, Connecticut
  May, 1980

- East Aurora Street (Accession #43621)
  Huntingdon Avenue (accession #18237) and
  Gear Street (Accession #16360)
  Sanitary Sewer Maps

Based on HRP's May 1, 1990, meeting with City of Waterbury's Engineering Department and Bureau of Water (Mr. Joseph Rainone), no additional information (blueprints) is available which shows the locations of the water and sewer connections in this area.

Comment 6

It is unclear whether the load bearing capacities described in section 12.1.6 refer to the city streets surrounding the facility, or to the surfaces used to allow vehicles access to the bulk loading area and the container loading area. It is the latter areas which we are concerned about.

Response 6

The load bearing capacities listed under section 12.1.6 refer to the on-site roads. The words "on-site" have been added to this section (see page 12-7 (R-5/10/90)).

III. WASTE CHARACTERISTICS

Comment 1

Appendix F indicates that the Stonclad HT epoxy sealant used in the flammable and combustible storage areas is rated "NR" (not recommended) for use with methylene Chloride. A suitable sealant must be selected and applied to the surfaces of these two areas.

Response 1

Methylene Chloride will not be used at MacDermid, Inc.'s 526 Huntingdon Avenue and Tables 5.2, 5.3, 5.7 and 5.12 have been revised to reflect this. Since Methylene Chloride has been used in the past at MacDermid, Inc., this constituent has not been removed from Table 13.1 of the Closure Plan.

Comment 2

In order to adequately fulfill comment III.2. of the 1/25/90 NOD, attachment 2 to your 3/12/90 NOD response should be included as an appendix to the Part B. It should be referenced in section 3 of the application. In addition, this same appendix should include MSDS sheets for the raw products which eventually produce your on-site wastes. The MSDS information is necessary in lieu of representative analytical data for your non-customer-generated waste streams.

Response 2

The laboratory results for the surface finishing chemicals received from customers and MacDermid's "On'Site Generated Wastes Spot Test" sheets for the waste streams received from the 245 Freight Street facility are referenced under section 3.0 and included as Appendix V.

Comment 3

With regard to comment 4 of the 1/25/90 NOD, at our 2/22/90 meeting with you, we got the impression that an internal manifesting system was used to identify and track wastes generated by MacDermid. No mention of this system was made in the plan. Either this system should be described in the waste analysis plan, or some other system for testing and screening these wastes should be developed and described in the Part B.

Response 3

A description of MacDermid's Internal Waste Tracking System is included under the Part B as Section 5.9.

Comment 4

With regard to your response to comment 15 of the 1/25/90 NOD, DEP feels that analysis for cyanide should be retained. This is because it is highly likely that some of your customers use cyanide plating solutions, and could possibly (intentionally or accidentally) contaminate the recycling waste streams with these materials. Similarly, TOX (or EPA method 8010) analysis should be retained in the first-time waste analysis, since many of your customers probably also use substantial quantities of chlorinated solvents. In order to properly analyze for the 8010 organics, page 1 of Appendix I should specify that samples will be taken in extraction vials as well as 1-liter containers. In addition, the waste analysis plan and process description sections should specify that, in addition to the other instances specified, customer-generated wastes will also be reanalyzed when an unexpected reaction, fume generation, or other significant process upset occurs in the recycling operation.

Response 4

Table 5.1 (page 5-3) has been revised to include the parameter TOX. Cyanide has not been added to Table 5.1 because the used surface chemicals received from customers are almost exclusively from printed circuit board manufacturers. Printed circuit board manufacturers do not use cyanide plating baths. Section 5.8.1 of the Part B has been revised to include other instances when waste will be reanalyzed. Page 1 of Appendix I has also been revised to specify that samples will be collected in extraction vials as well as 1-liter containers.

Comment 5

Your response to comment III.16. of the 1/25/90 NOD, as outlined in section 5.9 of the revised Part B, is inadequate. your on-site analytical laboratory should employ certain basic QA/QC procedures in order to ensure the accuracy of the results obtained. These QA/QC procedures may be in the form of an on-site QA/QC plan, or may incorporate certain applicable sections of SW-846 by reference. Regardless of which of these two approaches is taken, the Part B should describe in detail the methods which are used. These methods should at a minimum employ the use of trip, field and equipment blanks, chain-of-custody sheets (for off-site samples of first-time customer's wastes), spiked samples, equipment calibration checks, and split samples sent to an outside, certified lab as a check for the accuracy of analytical results. In addition, the Part B should indicate the roles of the on-site lab and the off-site lab facilities you will employ.

Response 5

Section 5.10 (formerly 5.9) has been revised to reference MacDermid's QA/QC Plan which is provided as Appendix X in the Part B. The roles of the on-site laboratory and off-site laboratory have also been included in Section 5.10.

Comment 6

Your response to comment 18 of the 1/25/90 NOD is incomplete. Section 5.8.1 of the Part B should identify exactly where containerized wastes will be retained while awaiting spot-checking or additional analytical results.

Response 6

Containerized wastes received on MacDermid's trucks and off-site MacDermid facilities will be transferred to the Quality Control Area for spot-testing. Containers received from independent carriers will be stored on the East Aurora Street Material Warehouse loading area until spot test results are received. Pages 2-9, 2-15, 4-7, 5-48, 9-21 and 9-22 of the Part B has been revised to include this information.

Comment 7

It is still unclear whether virgin chemical products will be stored in any of the container storage areas. The Part B should explicitly state whether or not any of these areas will be used for raw product storage; if any of the areas will be used, the areas and the raw products should be identified, and the additional materials should be included in the compatibility analysis.

Response 7

Virgin chemical product will not be stored in the main container storage area, combustible storage area or flammable material storage area. Pages 4-12, 4-16, and 4-19, have been revised to reflect this.

Comment 8

The "Waste Nickel Solution" waste stream is listed twice on pages 5-7 to 5-8 (Table 5.2). It is unclear whether this was due to an accidental duplication, or if there are supposed to be two different Waste Nickel Solution waste streams listed in this table.

Response 8

The "Waste Nickel Solution" waste stream was listed twice. Page 5-6 of the Part B has been revised accordingly. It should also be noted that MacDermid, Inc. has eliminated the following waste streams from being received from the 245 Freight Street facility: copper etchant, solder conditioner, NMP, solder stripper, acid zinc solution, tin/lead plating solution, and cadmium plating solution.

Comment 9

Any waste streams in Tables 5.1 through 5.3 listed as being corrosive or as having an EPA waste code number of D002 should include the pH in the "waste constituent" and "concentration range" categories.

Response 9

Tables 5.1 through 5.3 of the Part B have been revised accordingly.

Comment 10

Any aqueous waste streams in Tables 5.1 through 5.3 should have "water" listed as the last constituent and "balance" listed in the allowable concentration range.

Response 10

Tables 5.1 through 5.3 of the Part B have been revised accordingly.

Comment 11

Page 5-16, paragraph two, line five currently reads "which exceed the allowable concentration ranges..." Should this line actually read something like "which do not fall within the allowable concentration ranges..."? The way it is currently written implies that wastes with values below the lower limit of the concentrations would be accepted, and only those above the upper limit would be rejected. If it is correct as currently written, what is the usefulness of the lower concentration limit?

Response 11

Page 5-16 of the Part B has been revised to read "which do not fall within the allowable concentration ranges..."

Comment 12

It seems as though the line on the flow chart on page 5-19 of the revised part B which goes from "reject load and return to customer... to "store in designated area..." should be eliminated. Also, the asterisk on the "yes" decision on the block above should be eliminated. under no circumstances may MacDermid accept for treatment or storage wastes which are excluded by the permit (i.e., which do not comply with the permitted concentration ranges).

Response 12

Figure 5.1 (see page 5-18A) has been revised accordingly.

Comment 13

Page 5-20, paragraph one, should briefly describe which of the Freight Street wastes will bulked from 5-gallon buckets to larger containers, and should describe where and how this will occur.

Response 13

Page 5-19 has been revised to include this information.

Comment 14

In Appendix I (the first-time customer waste certification), the instructions on pages three to four does not match the sheet on page nine.

Response 14

The first-time customer waste certification sheets provided under Appendix I have been revised accordingly.

Comment 15

Table 5.6, part I should indicate which waste streams are corrosive and which are flammable. NMP should bear the label "combustible liquid". Lead Fluoride sludge should probably be labelled "ORM-B." The mixed chlorinated solvents should be labelled "ORM-A", "combustible liquid", or "flammable liquid", depending on the flash point. The metal hydroxide sludge should be labelled "ORM-E."

Response 15

Table 5.6 of the Part B has been revised accordingly.

Comment 16

In the compatibility analyses of page 5-30 et seq., NMP should have an RGN of 7 and 101. Xylene should have an RGN of 16. Cyclohexanone is mis-identified as Cyclohexane on page 5-30. 1,1,2-Trichloro-1,2,2-Trifluoroethane should have an RGN of 17.

Response 16

Based upon HRP's compatibility analyses, NMP should only have a RGN of 101. Table 5.7 has been revised to include this RGN number and all remaining RGN numbers listed under this comment.

Comment 17

Table 5.10 should indicate what method is used to test for Palladium.

Response 17

Table 5.10 has been revised to include the test method "atomic absorption" for palladium. No analytical method is known to exist.

Comment 18

Table 5.12 should indicate that flash point is tested by Pensky-Martens Closed Cup, not "Prinsky-Martens Closed Cup."

Response 18

Table 5.12 (see page 5-47) has been revised per this comment.

IV. PROCESS INFORMATION

Comment 1

Labelling procedures should be described for all containers (this includes drums, storage totes, and roll-offs).

Response 1

The Section 4.1.6 entitled "Container Labelling" has been added to the Part B (see page 4-26) which describes MacDermid's labelling procedures.

Comment 2

The request for confidentiality on page 4-33 of the Part B was not made in accordance with Section 1-19 of the Connecticut General Statutes and 40 CFR 270.12. Therefore, either a proper request must be made, or DEP cannot honor this request.

Response 2

In accordance with 40 CFR 270.12, the words "Confidential Business Information" has been typed on pages 4-35 through 4-50. The information provided under these pages is in reference to MacDermid's recycling operations.

Comment 3

With regard to your response to comment III.5. of the 1/25/90 NOD, the metal hydroxide sludge storage area should be cleaned and coated with a suitable epoxy sealant, to prevent migration of liquids in any spilled sludge into the porous concrete surface. The Part B should indicate that this area is sealed, and the inspection procedures for this area should include examining the sealer for cracks and deterioration. Furthermore, section 9 of the Part B should indicate that the contaminant for this area is capable of holding 100 per cent of the roll-off volume (26 yd^3).

Response 3

To prevent the migration of liquids into the porous concrete surface, the concrete floor in the metal hydroxide sludge storage area will be cleaned and coated with the epoxy coating stonclad HT (see page 2-8). A chemical resistance guide for stonclad HT is provided under Appendix F of the Part B. Discussion on secondary containment is provided under Page 9-17. Table 7.1

and Inspection Log in Appendix M have also been revised to include inspection of sealer.

Comment 4

The secondary containment calculations for the bulk tank storage area must include the volume of the 6000-gallon raw product storage tank. In addition, the negative volume of this tank was not deducted from the containment area capacity.

Response 4

The secondary containment calculation for the bulk tank storage area has been revised to include the volume of the 6000-gallon raw product storage tank (see page 9-19). The negative volume of this tank was deducted from the containment area capacity under our March 12, 1990, submission (please see page 9-19).

Comment 5

Section 4.1.1.4, item 4 should indicate that the satellite drum label is dated at the time of transfer.

Response 5

Section 4.1.1.4, item 4 has been revised to include this information (see page 4-11).

Comment 6

Your response to comment IV.5 of the 1/25/90 NOD was inadequate. The statement from Industrial Risk Insurers, submitted in support of your conclusion that the facility is in compliance with the NFPA codes, if anything, indicated the contrary (i.e., that there are some significant inadequacies with the fire protection system on-site). Therefore, DEP is hereby requiring that MacDermid retain the services of a certified fire protection consultant to evaluate the adequacy of the fire protection systems in the waste storage and processing areas. The results of this evaluation should be submitted to DEP in the form of a report which outlines the applicability of the NFPA codes to each area, and then itemizes compliance or non-compliance with the codes. Because of the time required to locate and schedule such a consultant, DEP does not intend to require submittal of this report within the same timeframe as the rest of the items in this request for additional information. however, this report must be

received prior to the drafting of the final permit, or specific and highly restrictive conditions will be written into the permit to ensure compliance with the fire codes.

Response 6

A copy of Mr. Marc B. Meunier's (Assistant Vice President of Johnson & Higgins) May 8, 1990, letter regarding compliance with NFPA codes (specifically the flammable storage area/NMP recycling area/solder stripper recycling area) is included as Attachment 2.

Comment 7

Figure 4.1 and/or 9.1 should indicate in plain view the location of drums in the main container storage area racks. That is, the drums should actually be drawn in on the figures, much as they were in Figures 4.2 and 4.3. This information is needed so DEP can confirm storage capacities and accessibility.

Response 7

Figures 4.1 and 9.1 (see pages 4-13 and 9-7) have been revised to show the location of drums in the main container storage area racks.

Comment 8

It should be demonstrated that the storage racks in the main container storage area are capable of supporting the theoretical maximum loading that they will ever receive. Manufacturer's data may be available which might support this determination. Also, such a demonstration may have been submitted in response to an Order written by DEP for MacDermid in 1984.

Response 8

Information regarding the capability of the storage racks in the main containers storage area to support the theoretical maximum loading, is provided under Appendix W. Page 9-6 of the Part B has also been revised to reference this appendix.

Comment 9

The first line of paragraph four on page 9-3 of the revised Part B should be changed to eliminate the words "and State".

Response 9

See revised page 9-3 of the Part B.

Comment 10

The secondary containment calculations in section 9.1.1.(3) of the revised part B must take into account the negative volumes of storage totes which may be stored directly on the floor. While this only applies to one of the two types of totes utilized, some allowance must be made for this source of negative containment volume.

Response 10

The negative volume of the twenty (20) storage totes (maximum stored in this area at any one time) was taken into account under the March 12, 1990, submission (see page 9-8).

Comment 11

The negative volume of the ramp was not included in the secondary containment calculation for the main container storage area. The positive volume of the sump was also omitted from the calculations. Both values should be included in the calculations in order to accurately demonstrate adequate secondary containment.

Response 11

The negative volume of the ramp and positive volume of the sump have been included in the secondary containment calculation for the main container storage area (see page 9-9).

Comment 12

It is still unclear in section 4.2.1.B. exactly how wastes would be transferred from the bulk storage tanks to tank trucks. The method of transfer (i.e. pump, air pressure, etc.) should be specified.

Response 12

Wastes are transferred from the bulk storage tanks to tank trucks using pumps (see page 4-29).

Comment 13

The Part B should indicate whether spare roll-offs are kept on hand or if the waste hauler brings an empty roll-off when removing a full one. Also, are full roll-offs ever removed and placed elsewhere in the facility pending removal? If so, this area should be identified.

Response 13

No spare roll-offs will be kept on hand at MacDermid, Inc. The waste hauler will drop-off an empty roll-off when removing the full one (see page 9-17).

Comment 14

The last paragraph in section 4.6 should indicate that DEP be notified of any manifest discrepancies, as well as EPA.

Response 14

The last paragraph in section 4.6 (see page 4-56) has been revised accordingly.

Comment 15

In section 9.1.2.(1)(d), paragraph three, line 6, of the revised part B, the maximum number of drums to be transported by a fork lift at a time was omitted. This number should be inserted into this line of the plan.

Response 15

The maximum number of drums to be transported by a fork lift will be four (see page 9-24).

Comment 16

Page 9-31 of the revised Part B indicates that there are 29 CO_2 fire extinguishers and 85 dry chemical extinguishers. page 10-33 indicates that only dry chemical extinguishers are used. Which is correct?

Response 16

Page 9-31 has been revised to indicate that 114 dry chemical extinguishers are located at the Huntingdon Avenue facility.

Comment 17

Records should be kept on the amounts of materials (i.e. copper, EDTA, NMP, and any others) recovered from the recycling operation, so as to provide documentation that the recycling operation constitutes legitimate recycling. This data should be kept on hand as part of the operating record.

Response 17

Section 11.2 of the Part B has been revised to include the information requested under this comment.

Comment 18

Your response to comment I.1.d. of the 1/25/90 NOD was insufficient. Processing and safety equipment and procedures must be identified and described for the recycling systems used to process Connecticut-regulated wastes.

Response 18

The processing and safety equipment and procedures used in the recycling processes are included under Section 4.3 of the Part B.

Comment 19

Your response to comment IV.10 of the 1/25/90 NOD was incomplete. More documentation of the tank system's ability to safely store waste should be provided. Specifically, the information on the drawing in Appendix P of the revised Part B concerning the maximum service specific gravity should be related to the typical s.g. of the wastes stored in the tanks, so as to demonstrate that this limit is not exceeded.

Response 19

The maximum specific gravity of the copper etchant received at MacDermid, Inc. is 1.20 which has a copper content of 18.5% (see Appendix P). Waste streams with specific gravity above 1.2 according to MacDermid, Inc. would contain too many solids to be used in the recycling process.

Comment 20

Page 4-33 of the revised Part B indicates that portable pumps and hoses are utilized to transfer liquids to and throughout the recycling system. This does not seem to be a prudent operational approach for handling hazardous materials. The part B should indicate how these transfers are accomplished safely, while minimizing uncontrolled losses and spillage, or, hard piping and permanent pumps should be installed.

Response 20

All hoses employed in the transfer of liquids to and throughout the recycling system will be replaced with hard piping by August 1, 1990 (see page 4-35).

V. PROCEDURES TO PREVENT HAZARDS

Comment 1

According to chemical data available to DEP, NMP has a flash point of 204°F, and a boiling point of 396°F. Therefore, it would seem possible that the distillative recovery of this material could be operated at a temperature close to its flash point. The Part B should indicate the temperature at which the still unit is operated, and precautions taken to prevent ignition of the waste.

Response 1

The NPM recycling process is maintained at an operating temperature between 275°F and 325°F. Page 4-49 of the Part B has been revised to include this information.

Comment 2

The high level alarms in the bulk storage tank area and in the main container storage area should be regularly tested for operational status (e.g. manually lifted to check alarm).

Response 2

Table 7.1 and the inspection logs provided under Appendix M have been revised to include the high level alarms.

Comment 3

The oxygen masks mentioned on page 7-2 of the revised Part B must be included in the weekly inspection log sheets in Appendix M.

Response 3

Oxygen masks are not utilized at MacDermid, Inc. and therefore, have been removed from page 7-2 of the part B.

Comment 4

Section 7.4.7.1 should indicate that records of the annual inspection of the fire extinguishers performed by Waterbury Fire Extinguisher Co. will be retained as part of the operating record.

Response 4

Section 7.4.7.1 (see page 7-9) has been revised accordingly.

Comment 5

The Part B should describe how any waste residues spilled inside truck trailers, or residues from containers which might fall off the truck dock would accumulate in the truck ramp area (i.e., is there drainage in this area? If not, where does rainwater go?). If there are drainage facilities in the ramp area itself, they should be protected with an absorbent mat or similar device during waste transfer.

Response 5

There is no drain in this area. The rainwater in this area is collected and is removed by natural evaporation.

Comment 6

Sections 9.1.6.2 and 9.1.6.3, which are referred to in sections 9.1.4.3 and 9.1.4.4 of the Part B do not exist.

Response 6

Sections 9.1.4.3 and 9.1.4.4 have been revised to refer to sections 9.1.4.2 and 9.1.4.3 (see page 9-34) respectively.

Comment 7

Section 7.6(b) of the revised Part B should refer to section 5.7.4, not section 5.4, for the test methods for spilled wastes.

Response 7

Section 7.6(b) has been revised to refer to section 5.7.4 (see page 7-11).

Comment 8

All areas which utilize a wall or concrete block structures as part of the secondary containment, must be sealed with the same sealant used on the floor and/or berms of the containment area (at least to the height required for adequate secondary containment).

Response 8

The wall or concrete block structures in the storage areas will be coated with the same sealant used on the floor to the height required for adequate secondary containment by August 1, 1990 (see pages 2-8, 9-5 and 9-10).

VI. CONTINGENCY PLAN

Comment 1

Your response to comment VI.t. requires further action. The contingency plan should be modified so that:

Comment 1a

each spill situation is evaluated for the possibility of incompatibility problems (with other wastes or virgin materials present in the spill area).

Response 1a

Section 10.5.3 has been revised to include the possibility of incompatability problems (see page 10-21).

Comment 1b

containerized spill cleanup residues will be segregated, if necessary, to prevent incompatibility problems.

Response 1b

See Section 10.5.3.B(3)(f) of the Part B.

Comment 2

The first submittal of the part B indicated that Waterbury Hospital was one of the emergency contacts to be sent a copy of the facility Contingency Plan. This is confirmed on page 9-35 of the revised Part B. Attachment 2 to the revised Part B's Contingency Plan, however, does not confirm this. Was this an oversight or are the original Part B and page 9-35 erroneous?

Response 2

A copy of the Waterbury Hospital Health Center's May 1, 1990, letter regarding MacDermid's Contingency Plan has been added to Attachment 2 of the Contingency Plan (see Section 10.0 of the Part B).

Comment 3

In reference to comment VI.9. of the 1/25/90 NOD, the Part B should specify that emergency escape routes are posted in all hazardous waste areas.

Response 3

Section 10.7.3 (see page 10-44) has been revised to specifically state that emergency escape routes are posted in all hazardous waste areas.

Comment 4

The response to comment VI.11. of the 1/25/90 NOD was incomplete. Table 10.2 of the Part B should indicate the approximate amounts of spill control and personal protective items kept on-site.

Response 4

Table 10.2 (see page 10-33) has been revised to include the approximate amounts of spill control and personal protective items kept on-site.

Comment 5

The contingency plan should indicate that a file of MSDSs for materials handled on-site (as required by 29 CFR 1910.1200 and the SARA Title III requirements) is available for use by the emergency coordinator.

Response 5

Page 10-9 of the Part B has been revised to include this information.

Comment 6

Page 8-11, section II.A.6. describes the use of grounding stations for transfer of flammables. The satellite drum in the combustible material storage area should be protected in this manner.

Response 6

Pages 9-38 and 9-39 of the Part B has been revised to state that the satellite drum in the combustible material storage area and containers in the flammable material storage area are grounded.

Comment 7

The flow charts beginning on pages 10-16, 10-20, and 10-31 should all come after their respective descriptive sections instead of before them.

Response 7

The flow charts have been placed after their respective descriptive sections (see pages 10-18, 10-28 and 10-32).

VII. PERSONNEL TRAINING

Comment 1

In accordance with 40 CFR 264.16(b), section 8 of the Part B should specifically indicate that employees engaged in hazardous waste activities will not work in unsupervised positions until their training is complete.

Response 1

Page 8-2 of the Part B has been revised to include this statement.

Comment 2

In accordance with 40 CFR 264.16(a)(2), section 8.2 of the Part B should indicate that all hazardous waste trainers must be trained in hazardous waste management procedures.

Response 2

Page 8-4 of the Part B has been revised to include this statement.

Comment 3

With regards to comment 4 of the 1/25/90 NOD, there are still some concerns relating to compliance with the hazardous waste training requirements of 29 CFR 1910.120:

Comment 3a

Section 8.1 of the Part B should indicate that the annual training update will consist of at least 8 hours of instruction, in accordance with 29 CFR 1910.120(o)(5).

Response 3a

Section 8.1 of the Part B has been revised to include this information.

Comment 3b

If MacDermid intends to conduct emergency response activities as defined in 29 CFR 1910.120(a)(3), those employees involved in such emergency response must have training meeting the requirements of 29 CFR 1910.120(e) and (l). If MacDermid wishes to employ a more limited response effort, the requirements of 29 CFR 1910.120(l)(4) must be met (HAZMAT teams). If MacDermid intends to conduct post-emergency response activities, as defined in 29 CFR 1910.120(l)(5), the training program must comply with the requirements of this section which include, by reference, the training requirements of this section, which include, by reference, the training requirements of 29 CFR 1910.120(e). The Part B should indicate MacDermid's status in each of these areas and should be revised accordingly for any areas which are currently deficient.

Response 3b

The emergency response activities which are to be carried out by MacDermid, Inc. personnel are outlined under Section 8.1 of the Part B.

Comment 4

Item IV.D.3. of Table 8.2 (the General Training Program outline) should indicate that employees are trained in the basic points of the contingency plan and its implementation.

Response 4

Table 8.2, Item IV.D.3 has been revised accordingly.

Comment 5

The "warehouse supervisor" identified on page 4-6 should be trained in hazardous waste handling procedures and record-keeping. It does not appear this job title is included in Table 8.1.

Response 5

The "warehouse supervisor" title listed under pages 2-14, 4-6, and 9-21 has been revised to Shipping/Receiving Group Leader which is included on Table 8.1.

Comment 6

On pages 8-17 to 8-25 of the revised Part B, the 29 CFR 1910.120 and 1910.1200 training requirements are misidentified as 1210.120 and 1210.1200.

Response 6

All references to 29 CFR listed under section 8.0 have been revised to list the appropriate section 1910.120 or 1910.1200.

Comment 7

The training elements listed under "TRAINING" for each of the positions in Table 8.4 are not presented in enough detail. These training elements should be expanded to identify the important concepts and details within each element, as was done in the general training outline in Table 8.2. For instance, merely indicating that the driver-waste handler will be trained in forklift operations is insufficient; this element of the training plan should specify what operating procedures he/she should know, what safety precautions should be taken, etc.

Similarly, the "Training Requirements" sections of the broad training program should be expended to detail more specifically the knowledge and procedures that will be conveyed by this program. While the training director may be aware of the content of this training, the material should be documented in enough detail for DEP to assess its adequacy and enforce its implementation.

Response 7

In response to this comment, Table 8.3 (Limited Training) and Table 8.4 (Broad Training) have been expanded to identify the important concepts and details of each training element.

VIII. CLOSURE REQUIREMENTS

Comment 1

The total number of tanks in the recycling operation could not be determined therefore, we were not able to confirm whether the total number of tanks listed in the closure plan cost estimates equals the actual number on site which must be closed. Please provide the exact number of tanks to be closed and revise the cost estimate if necessary.

Response 1

Pages 13-14 and 13-15 of the Part B have been revised to include the recycling operation tanks described under section 4.3. The total closure cost estimate was not revised.

Comment 2

Table 13.1 should identify and give the source of any drinking water standards listed in the MCL column which are not actually EPA MCLs.

Response 2

Table 13.1 has been revised to identify the source of the drinking water standards listed under the MCL column (see page 13-3).

Comment 3

In Table 13.1, the RfDs for Nickel and Tin are transposed. Perchloroethylene's RfD is missing.

Response 3

Table 13.1 has been revised accordingly.

Comment 4

Although it is implied in section 13.2 and 13.3, the closure plan does not actually state that, in order for clean closure to occur, all of each storage area's confirmation samples must not exceed the clean standard for the appropriate exposure pathway for each Table 13.1 constituent or detected Appendix IX constituent. This must be stated in the closure plan.

Response 4

Section 13.3 (see page 13-7) has been revised per this comment.

Comment 5

DEP has determined that each of the waste storage areas should be sampled in the location of suspected highest contamination, in addition to the four randomly selected locations specified in the closure plan.

Response 5

Pages 13-11, 13-18 and 13-24 of the Part B have been revised in response to this comment.

Comment 6

Comment VIII.4. was not adequately addressed in the revised Part B. Clean confirmation must involve a calculation to indicate whether or not sufficient volatile waste residues remain in the waste storage areas to cause health impacts via the inhalation route.

Response 6

Sections 13.2 and 13.3 have been revised to include a calculation for the inhalation pathway.

Comment 7

Workers cleaning and decontaminating the interiors of waste tanks should have better protection than level C as specified on page 13-34 and in Table 13.5.

Response 7

Table 13.5 has been revised to indicate a recommended level of protection of "C" for the workers decontaminating the floors and tanks.

Comment 8

Page 13-46 of the part B should indicate that all closure certification materials will be sent to DEP and EPA within 60 days of completion of closure activities.

Response 8

Section 13.4.13 has been revised accordingly.

Comment 9

Section 13-3 of the revised Part B closure plan must indicate that, in order for the tanks to be clean-closed, wipe samples from the tanks must test non-detect for the contaminants of concern. Health-based standards are not acceptable for non-porous media.

Response 9

Section 13.3 of the part B has been revised accordingly.

Comment 10

In section 13.4.3.4. of the revised part B, it is unclear what would be done with the samples taken in Step 3. Would these samples be used to evaluate sub-grade contamination in some way?

Response 10

Section 13.4.3.4 has been revised to indicate that only samples from the subgrade level will be collected and analyzed to determine if contamination has reached this level.

Comment 11

Section 13.4.3.5. of the revised Part B closure plan must specify that the background concrete sample will be taken from an area where no manufacturing processes, waste or product storage, etc., have occurred which might have caused contamination of the sample. If such an area cannot be located in the same construction phase of the building, background samples cannot be properly utilized.

Response 11

Section 13.4.3.5 has been revised accordingly.

Comment 12

Line 5 of Table 13.3 of the revised Part B closure plan should indicate the use of EPA method 1310 (not 130). In Table 13.4, the method for Tin analysis should be EPA method 7870 (not 8780); also, the method for Ethyl Benzene is 8020 (not 8010); and, 1,1,1-Trichloroethane is mistakenly identified as 1,1,1-Trichloroethylene.

Response 12

Tables 13.3 and 13.4 have been revised accordingly.

Comment 13

Section 13.4.8., Step 4, Item C refers to a "tt-gallon drum." This appears to be a typo.

Response 13

Section 13.4.8, Step 4, item C has been revised to indicate a "55" gallon drum will be used to store spills absorbed with speedi-dry or sand.

Comment 14

In accordance with 40 CFR 264.112(d)(2), MacDermid must begin closure no more than 30 days after the final volume of waste is accepted. Hence, closure activity #3 in Table 13.7 of the revised Part B closure plan must be accomplished by day 210 (not 220). The closure schedule must be changed to reflect this regulatorily-mandated time limit. The same problem exists in Table 13.8. Also, Closure Activity #5 in Table 13.8 should be asterisked as one of the steps which the certifying organization will be present for.

Response 14

Tables 13.7 and 13.8 have been revised accordingly.

ATTACHMENT 2

MR. MARC B. MEUNIER'S
MAY 8, 1990 LETTER

One Corporate Center
Hartford, Connecticut 06103
203 522 3141

Answerback KENDEN HFD

JOHNSON & HIGGINS Established 1845

May 8, 1990

Mr. Frank Cruice
MacDermid Inc.
245 Freight Street
Waterbury, CT 06702

Pilot Plant Evaluation

Dear Frank:

Attached is a brief review of the hazardous waste storage area (Pilot Plant) and how it compares to NFPA 30. I attempted to keep the report brief and to highlight the main concerns of fire protection and fire separation.

I trust you will find that this report will suit your needs. Should you require any further details or if there are any questions, please do not hesitate to contact us.

Sincerely,

Marc B. Meunier
Assistant Vice President
Property Loss Control

Attachment

cc: J. Burns - J&H
C. Curry - J&H

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MACDERMID INC.

Pilot Plant Evaluation

The DEP is presently reviewing the Pilot Plant area to determine if it is in compliance with various hazardous material handling and storage regulations. One of the regulations specified to MacDermid is that this area should meet the requirements of the National Fire Protection Association (NFPA) Flammable and Combustible Liquids Code, NFPA 30. The main concern appears to be in the sprinkler protection for the storage of flammables, and the barriers between the Pilot Plant and other areas of the facility.

I will first describe the construction, occupancy, and protection features of the Pilot Plant area. Afterwards, a brief comparison of the existing conditions and NFPA 30 will be outlined.

Construction, Occupancy, and Protection

- The area in question is comprised of 3 rooms, all interconnected with concrete block walls separating them and unprotected openings. The Pilot Plant which contains the hazardous storage is the largest room (1,666 sq. ft.). The bottle washing room (1,421 sq. ft.) adjoins it and the smallest room (551 sq. ft.) is occupied by a nonflammable process. Due to the nonhazardous nature of this small room, it will not be discussed any further in this report.

- The Pilot Plant room has two processes of concern. The first is a photosensitive solution which is comprised of Methyl Alcohol (F.P. = 52° F) and water. The final solution is not considered a fire hazard; however, up to 4-55 gallon drums of alcohol are stored and dispensed from here. The second process involves the Pilot Plant operation which involves 500 gallons of a chemical called NMP (F.P. = 205° F).

- The bottle washing room involves the cleaning of 1 gallon glass bottles using Acetone (F.P. = 0° F). Only 1-55 drum of Acetone is stored in the room.

- There are two 12-inch thick hollow concrete blocks adjoining other occupancies. These walls are estimated to have a fire rating of 3 hours. There is only one opening in these walls which has an automatic 3 hour roll-down door. This door is kept closed and not used for traffic. This opening is provided with a 1-foot curb. The two remaining walls are masonry and to the outside.

- The rooms are all protected by an automatic wet-pipe extra hazard pipe schedule sprinkler system.

- Electrical systems are of the explosion proof type throughout the Pilot Plant and bottle washing rooms.

- Mechanical ventilation is provided by two exhaust fans; one in the roof of the Pilot Plant and the other on the exterior wall of the bottle washing room. Natural ventilation is provided by the garage type door which is left at least a third open on all but the coldest of days in the Pilot Plant room.

NFPA 30 Comparison

- The firewalls between the described rooms and other adjoining areas exceeds the minimum requirements of NFPA 30. This code identifies 2 hour walls and 1 1/2 hour doors. The existing walls are estimated to be 3 hour rated, along with a 3 hour door.

- NFPA 30 identifies various methods to minimize the possibility that a spill will enter an adjoining area. The only opening has a 1 foot curb and the room has a system of drains feeding an outside underground tank.

- Explosion venting is recommended if any Class IA flammables are dispensed. There is no specifically designed walls for this purpose; however, the exterior wall is provided with a considerable amount of windows and a light-weight garage door. These features would accomplish the intent of having explosion relief for the room.

- NFPA 30 allows nonsprinklered or sprinklered storage areas. These rooms have an automatic sprinkler system provided throughout and which meets the guidelines for the minimal amounts of flammables stored here.

- Electrical systems meet the requirements of NFPA 30.

- Ventilation would be considered marginal in that low point mechanical ventilation is recommended for Class I and II liquids. However, there is minimal flammable liquids usage and there is a large amount of natural ventilation.

Overall, the fire protection and construction features adequately protect and cut-off the fire hazards of these two rooms while meeting the intent of NFPA 30.

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